

AMENDMENTS TO THE CLAIMS:

Claims 1, 2 4, 5, 7, 9, 11, 13, 15, 16, 21-26, 28-31, and 37 are canceled without prejudice or disclaimer. Claims 38-87 are added. The following is the status of the claims of the above-captioned application, as amended.

Claims 1-37 (Canceled).

Claim 38 (New). A variant of a parent protease, comprising a substitution in at least one position selected from the group consisting of:

78-81; 83-100; 103-106; 111-114; and 118-131;

wherein

- (a) the variant has a sequence identity to the sequence of amino acids 1 to 188 of SEQ ID NO: 2 of at least 90% but less than 100%;
- (b) the variant has protease activity; and
- (c) each position corresponds to a position of amino acids 1 to 188 of SEQ ID NO: 2.

Claim 39 (New). The variant of claim 38, which has a sequence identity to the sequence of amino acids 1 to 188 of SEQ ID NO: 2 of at least 92%.

Claim 40 (New). The variant of claim 38, which has a sequence identity to the sequence of amino acids 1 to 188 of SEQ ID NO: 2 of at least 94%.

Claim 41 (New). The variant of claim 38, which has a sequence identity to the sequence of amino acids 1 to 188 of SEQ ID NO: 2 of at least 95%.

Claim 42 (New). The variant of claim 38, which has a sequence identity to the sequence of amino acids 1 to 188 of SEQ ID NO: 2 of at least 96%.

Claim 43 (New). The variant of claim 38, which has a sequence identity to the sequence of amino acids 1 to 188 of SEQ ID NO: 2 of at least 97%.

Claim 44 (New). The variant of claim 38, which has a sequence identity to the sequence of amino acids 1 to 188 of SEQ ID NO: 2 of at least 98%.

Claim 45 (New). The variant of claim 38, which comprises a substitution at position 78.

Claim 46 (New). The variant of claim 38, which comprises a substitution at position 79.

Claim 47 (New). The variant of claim 38, which comprises a substitution at position 80.

Claim 48 (New). The variant of claim 38, which comprises a substitution at position 81.

Claim 49 (New). The variant of claim 38, which comprises a substitution at position 83.

Claim 50 (New). The variant of claim 38, which comprises a substitution at position 84.

Claim 51 (New). The variant of claim 38, which comprises a substitution at position 85.

Claim 52 (New). The variant of claim 38, which comprises a substitution at position 86.

Claim 53 (New). The variant of claim 38, which comprises a substitution at position 87.

Claim 54 (New). The variant of claim 38, which comprises a substitution at position 88.

Claim 55 (New). The variant of claim 38, which comprises a substitution at position 89.

Claim 56 (New). The variant of claim 38, which comprises a substitution at position 90.

Claim 57 (New). The variant of claim 38, which comprises a substitution at position 92.

Claim 58 (New). The variant of claim 38, which comprises a substitution at position 93.

Claim 59 (New). The variant of claim 38, which comprises a substitution at position 94.

Claim 60 (New). The variant of claim 38, which comprises a substitution at position 95.

Claim 61 (New). The variant of claim 38, which comprises a substitution at position 96.

Claim 62 (New). The variant of claim 38, which comprises a substitution at position 97.

Claim 63 (New). The variant of claim 38, which comprises a substitution at position 98.

Claim 64 (New). The variant of claim 38, which comprises a substitution at position 99.

Claim 65 (New). The variant of claim 38, which comprises a substitution at position 103.

Claim 66 (New). The variant of claim 38, which comprises a substitution at position 105.

Claim 67 (New). The variant of claim 38, which comprises a substitution at position 106.

Claim 68 (New). The variant of claim 38, which comprises a substitution at position 111.

Claim 69 (New). The variant of claim 38, which comprises a substitution at position 113.

Claim 70 (New). The variant of claim 38, which comprises at least one of the following substitutions:

78A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
79A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
80A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
81A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
83A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
84A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
85A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
86C,D,E,F,G,H,I,K,L,M,N,P,R,S,T,V,W,Y;
87A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,V,W,Y;
88A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
89C,D,E,F,G,H,I,K,L,M,N,P,Q,R,V,W,Y;
90A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
92P,R,K;
93P;
94C,P;
95E,D;

96E,D,P;
97R,K;
98P;
99R,K;
103C;
105C,P;
106C;
111R,K; and
113E,D.

Claim 71 (New). The variant of claim 38, which comprises at least one of the following pairs of substitutions: 6C+103C; 8C+105C; 76C+85C; 94C+149C; and/or 106C+141C.

Claim 72 (New). The variant of claim 38, which comprises at least one of the following substitutions: 81P; 92P; 93P; 94P; 96P; 98P; 105P; and/or 125P.

Claim 73 (New). The variant of claim 38, which comprises at least one of the following substitutions: 81E,D; 84E,D; 89E,D; 95E,D; 96E,D; 113E,D; 120E,D; 129E,D; and/or 130E,D.

Claim 74 (New). The variant of claim 38, which comprises at least one of the following substitutions: 92R,K; 97R,K; 99R,K; 111R,K; 118R,K; 122R,K; 124R,K; and/or 127R,K.

Claim 75 (New). The variant of claim 38, which comprises at least one of the following substitutions: 81P; 84D,E; 85C; 92P,R,K; 93P; 94C,P; 95E,D; 96E,D,P; 97R,K; 98P; 103C; 105C,P; 106C; 122R,K; 124R,K; and/or 127R,K.

Claim 76 (New). The variant of claim 38, which comprises at least one of the following substitutions:

S78A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,T,V,W,Y;
R79A,C,D,E,F,G,H,I,K,L,M,N,P,Q,S,T,V,W,Y;
Y80A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
N81A,C,D,E,F,G,H,I,K,L,M,P,Q,R,S,T,V,W,Y;
G83A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
G84A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;

Y85A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W;
A86C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
T87A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,V,W,Y;
V88A,C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,W,Y;
A89C,D,E,F,G,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
G90A,C,D,E,F,H,I,K,L,M,N,P,Q,R,S,T,V,W,Y;
H91T,S;
N92P,R,K,S;
Q93P;
A94C,P;
P95A,E,D;
I96A,E,D,P;
G97R,K;
S98P;
S99A,Q,R,K;
V100I;
S103C;
S105C,P;
T106C;
C111R,K;
T113E,D;
I114V;
G118N,R,K;
S120T,E,D;
S122R,K;
P124R,K;
E125P,Q;
T127R,K;
T129E,D,Y,Q;
N130E,D,S; and/or
M131L.

Claim 77 (New). A detergent composition comprising a variant of claim 38 and a surfactant.

Claim 78 (New). An animal feed additive comprising at least one variant of claim 38, and

- (a) at least one fat soluble vitamin;
- (b) at least one water soluble vitamin; and/or
- (c) at least one trace mineral.

Claim 79 (New). An animal feed composition having a crude protein content of 50 to 800 g/kg and comprising the variant of claim 38.

Claim 80 (New). A method for improving the nutritional value of an animal feed, comprising adding a variant of claim 38 to the animal feed.

Claim 81 (New). A method for the treatment of proteins, comprising adding a variant of claim 38.

Claim 82 (New). An isolated nucleic acid sequence comprising a nucleic acid sequence which encodes a variant of claim 38.

Claim 83 (New). A nucleic acid construct comprising the nucleic acid sequence of claim 82 operably linked to one or more control sequences that direct the production of the variant in a suitable expression host.

Claim 84 (New). A recombinant expression vector comprising the nucleic acid construct of claim 83.

Claim 85 (New). A recombinant host cell comprising the nucleic acid construct of claim 83.

Claim 86 (New). A method for producing a variant having protease activity, comprising:

- (a) cultivating the host cell of claim 85 to produce a supernatant comprising the variant; and
- (b) recovering the variant.

Claim 87 (New). A transgenic plant, or plant part, capable of expressing a variant of claim 38.